University at Albany, SUNY
Educational & Counseling Psychology   December 12, 2016
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EDUCATION

2014	**EdD** (Psychometrics), University of Massachusetts Amherst. Dissertation: *Effect of Automatic Item Generation on Ability Estimates in a Multistage Test*. Doctoral Mentor, Lisa A. Keller, EdD
2002	**MA** (Statistics), University of Rochester, Department of Biostatistics
1999	**MAT** (Mathematics Curriculum & Instruction), Cornell University, Department of Education
1998	**BS** (Biometry & Statistics), Cornell University, Department of Biometry & Statistics

EDUCATIONAL EMPLOYMENT

2014 – present	**Assistant Professor**, Division of Educational Psychology & Methodology, Department of Educational & Counseling Psychology, University at Albany School of Education, State University of New York.
2013 – 2014	**Postdoctoral Research Associate**, Applying psychometric techniques to data from massive open online courses (MOOCs), Massachusetts Institute of Technology (MIT). Postdoctoral Mentor, David E. Pritchard, PhD
2012	**Adjunct Lecturer**, Statistics, University of Massachusetts Amherst
2008	**Visiting Lecturer**, Mathematics, Cornell University
1999 – '01, 2003 – '10	**High School Math Teacher**, Ithaca, NY; Liverpool, NY; Lansing, NY

PUBLICATIONS

Peer Reviewed Articles

Balint, T. A., Teodorescu, R., **Colvin, K. F.**, Choi, Y-J., & Pritchard, D. (in press). Physics instructional resource usage by high-, medium-, and low-skilled MOOC students. *The Physics Teacher*.

Colvin, K. F., Keller, L. A., & Robin, F. (2016). Effect of imprecise item parameter estimates on ability estimates in a multistage test in an automatic item generation context. *Journal of Computerized Adaptive Testing 4*(1), 1-18, doi: 10.7333/1608-040101.

Keller, L. A., Keller, R., Cook, R., & **Colvin, K. F.** (2016). Impact of accumulated error on item response theory pre-equating with mixed format tests. *Applied Measurement in Education*, *29*(1), 65-82.

Rayyan, S., Fredericks, C., **Colvin, K. F.**, *Liu, A., Teodorescu, R., Barrantes, A., Pawl, A., Seaton, D. T., & Pritchard, D. E. (2016). A MOOC based on blended pedagogy. *Journal of Computer Assisted Learning 32*, 190-201, doi: 10.1111/jcal.12126.

Roysircar, G., **Colvin, K. F.**, Afolyan, A. G., Thompson, A., & *Robertson, T. W. (2016). Haitian children's resilience and vulnerability assessed with House-Tree-Person (HTP) drawings. *Traumatology*. doi: 10.1037/trm0000090

Villares, E., Mariani, M., Sink, C., & **Colvin, K. F.** (2016). Multilevel confirmatory factor analysis of the Teacher My Class Inventory – Short Form. *Measurement and Evaluation in Counseling and Development*, *49*(4), 1-11, doi: 10.1177/0748175616639107.

Balint, T. A., Teodorescu, R., **Colvin, K. F.**, Choi, Y-J., & Pritchard, D. E. (2015). Comparing measures of student performance in hybrid and MOOC physics courses. *European Journal of Physics Education 6*(3), 32-44.

Mariani, M., Villares, E., Sink, C., **Colvin, K. F.**, & Kuba, S. P. (2015). Confirming the structural validity of the My Class Inventory – Short Form Revised. *Professional School Counseling*, *19*(1), 92-102.

Colvin, K. F., Champaign, J., *Liu, A., Zhou, Q., Fredericks, C., & Pritchard, D. E. (2014). Learning in an introductory physics MOOC: All cohorts learn equally, including an on-campus class. *The International Review of Research in Open and Distance Learning IRRODL 15*, 4.

Villares, E., **Colvin, K. F.**, Carey, J., Webb, L., Brigman, G., & Harrington, K. (2014). Convergent and divergent validity of the Student Engagement in School Success Skills Survey. *The Professional Counselor, 4*(5), 541-552.

* student co-author

Manuscripts under Review by Peer Reviewed Journals

Manganello, J., **Colvin, K. F.**, Hancock, J., Chisolm, D., Arnold, C., & Davis. T. Adolescent health literacy measure: REALM-Teen Short Form. *Pediatrics*.

Book Chapters

Keller, L. A., **Colvin, K. F.** & Garcia, A. (2016). Growth: Measurement, meaning, and misuse. In C.S. Wells & M. Faulkner-Bond (Eds.), *Educational Measurement: From Foundations to Future* (pp. 318-334). New York, NY: Guilford Press.

Encyclopedia Entries

Colvin, K. F. & Keller, L. A. (in press). Markov Chain Monte Carlo Item Response Theory Estimation. In *Wiley StatsRef-Statistics Reference Online (WSR)*, John Wiley & Sons.

Colvin, K. F. & Keller, L. A. (2015). Bias in testing: What does it mean? In S. Thompson (Ed.), *Encyclopedia of Diversity and Social Justice* (pp. 715-717). Lanham, MD: Rowman & Littlefield Publishers.

Published Peer Reviewed Conference Proceedings

Balint, T. A., Teodorescu, R. E., **Colvin, K.**, Choi, Y., & Pritchard, D. E. (2015). Identifying characteristics of pairs of questions that students answer similarly. *Proceedings of the 2015 Physics Education Research Conference*. College Park, MD.

Bergner, Y., **Colvin, K**., & Pritchard, D. E. (2015). Estimation of ability from homework items when there are missing and/or multiple attempts. *Proceedings of the Fifth International Conference on Learning Analytics and Knowledge*, pp. 118-125. Doi 10.1145/2723576.2723582

Colvin, K., Champaign, J., *Liu, A., Fredericks, C., & Pritchard, D. (2014). Comparing learning in a MOOC and a blended, on-campus course. *Proceedings of the 7th International Conference on Educational Data Mining*, pp. 343-344.

Champaign, J., **Colvin, K.**, *Liu, A., Fredericks, C., Seaton, D. & Pritchard, D.E. (2014) Correlating skill and improvement in two MOOCs with a student's time on tasks. *Proceedings of the First Learning at Scale Conference*. Atlanta, Georgia. http://dx.doi.org/10.1145/2556325.2566250

* student co-author

Book Reviews

Keller, L. A. & **Colvin, K. F.** (2014). Review of the book *The Rise of Data in Education Systems: Collection, Visualization, and Use* edited by Martin Lawn. *Comparative Education Review, 58*, 549-551.

Colvin, K. F. (2013). Review of the book *Doing Bayesian data analysis: A tutorial with R and BUGS*, by J. K. Kruschke. *Journal of Educational Measurement, 50*, 469-471.

Other Publications

Craine, W. & **Smith-Colvin, K.** (2005, 2008, 2011). *Instructor's solutions manual to accompany Stats: data and models ([1st], 2nd, and 3rd Editions) by De Veaux, Velleman and Bock.* Boston, MA: Pearson Addison-Wesley.

Craine, W. & **Smith-Colvin, K.** (2005, 2008, 2011). *Student's solutions manual to accompany Stats: data and models ([1st], 2nd, and 3rd Editions) by De Veaux, Velleman and Bock.* Boston, MA: Pearson Addison-Wesley.

WORK IN PROGRESS

Colvin, K. F. *Computerized adaptive testing and number-correct scoring under specific conditions.*

Colvin, K. F., *Gorhun, G. & *Robertson, T. W., *Optimal use of survey categories.*

Curkovic, N., & **Colvin, K. F.** *Item response theory: Modern approach in developing and analyzing psychological instruments.*

*Franklin, D., & **Colvin, K. F**. *An item response theory analysis of college teaching evaluations.*

*Park, S. Y., & **Colvin, K. F.** *Psychometric properties of the Korean version of the ten-item Perceived Stress Scale in a military sample.*

*Sahin, F. & **Colvin, K. F.** *Comparison of BILOG and the R package ltm for IRT dichotomous models.*

*Yilmaz-Gozu, H., Newman, J., & **Colvin, K. F.** *Effects of parenting differences in mothers and fathers on self-esteem and academic ability in Turkey and the United States.*

* student co-author

GRANT FUNDING

Proposals under Review

Federal
Role: Co-Principal Investigator
Project: A Randomized Controlled Trial Investigating the Student Success Skills Program on
   Grade 5 Student Academic, Social, and Behavioral Outcomes
Sponsor: Institute of Education Sciences
Dates: July 1, 2017 – June 30, 2019
Cost: $21,569 (Direct); $27,177 (Total)

University at Albany
Presidential Innovation Fund for Research and Scholarship (PIFRS)
Role: Collaborator
Principal Investigator: Jennifer Manganello, School of Public Health, University at Albany
Project: Get Health'e': Using digital badging to improve eHealth literacy skills for young adults

Proposal Not Funded

Federal
Role: Co-Investigator
Principal Investigator: Jennifer Manganello, School of Public Health, University at Albany
Project: Get Health'e': Using digital badging to improve health literacy skills for young adults
Sponsor: NIH
Dates: July 1, 2016 – June 30, 2021

UNPUBLISHED RESEARCH REPORTS

Colvin, K., Li, X., Fan, F., Deng, N., & Hambleton, R. K. (2013). *Equating results for the seven 2013 Massachusetts Comprehensive Assessment System (MCAS) Mathematics Tests* (Center for Educational Assessment Report No. 852). Amherst, MA: University of Massachusetts, Center for Educational Assessment.

Li, X., **Colvin, K.**, Deng, N., & Hambleton, R. K. (2013). *Equating results for the seven 2013 Massachusetts Comprehensive Assessment System (MCAS) English Tests* (Center for Educational Assessment Report). Amherst, MA: University of Massachusetts, Center for Educational Assessment.

Li, X., **Colvin, K.**, Deng, N., Fan, F., & Hambleton, R. K. (2013). *Equating results for the six 2013 Massachusetts Comprehensive Assessment System (MCAS) Science Tests* (Center for Educational Assessment Report No. 853). Amherst, MA: University of Massachusetts, Center for Educational Assessment.

Colvin, K. F., Keller, L. A., & Soto, A. C. (2012). *Equity in student growth projections: An investigation of factors that influence growth expectations* (Center for Educational Assessment Report No. 809). Amherst, MA: University of Massachusetts, Center for Educational Assessment.

Colvin, K., Li, X., Bahry, L., Shin, M., Wang, X., Deng, N., & Hambleton, R. K. (2012). *Equating results for the six 2012 Massachusetts Comprehensive Assessment System (MCAS) Science Tests* (Center for Educational Assessment Report No. 830). Amherst, MA: University of Massachusetts, Center for Educational Assessment.

Colvin, K., Li, X., Deng, N., & Hambleton, R. K. (2012). *Equating results for the seven 2012 Massachusetts Comprehensive Assessment System (MCAS) English Tests* (Center for Educational Assessment Report No. 829). Amherst, MA: University of Massachusetts, Center for Educational Assessment.

Colvin, K., Rios, J. A., Sireci, S. G., Randall, J., Mayfield, K., & Hamen, C. (2012). *Defining and measuring pedagogical content knowledge for Advanced Placement Biology* (Center for Educational Assessment Report No. 825). Amherst, MA: University of Massachusetts, Center for Educational Assessment.

Cook, R., Randall, J., Shin, M., Wang, X., & **Colvin, K.** *Using the Rasch Model to evaluate the psychometric properties of five non-cognitive scales* (Center for Educational Assessment Report No. 831). Amherst, MA: University of Massachusetts, Center for Educational Assessment.

Keller, L. A., Soto, A. C., & **Colvin, K. F.** (2012). *Differences in math attitudes and achievement for males and females* (Center for Educational Assessment Report No. 826). Amherst, MA: University of Massachusetts, Center for Educational Assessment.

Li, X., **Colvin, K.**, Shin, M., Bahry, L., Wang, X., Deng, N., & Hambleton, R. K. (2012). *Equating results for the seven 2012 Massachusetts Comprehensive Assessment System (MCAS) Mathematics Tests* (Center for Educational Assessment Report No. 830). Amherst, MA: University of Massachusetts, Center for Educational Assessment.

Colvin, K. F. & Randall, J. (2011). *A review of recent findings on DIF analysis techniques* (Center for Educational Assessment Report No. 795). Amherst, MA: University of Massachusetts, Center for Educational Assessment.

Colvin, K. F. & Randall, J. (2011). *Investigating adverse impact in teacher certification: A literature review* (Center for Educational Assessment Report No. 805). Amherst, MA: University of Massachusetts, Center for Educational Assessment.

Deng, N., Lam, W., Li, X., **Colvin, K.**, Yoo, H., & Hambleton, R. K. (2011). *Equating results for the seven 2011 Massachusetts Comprehensive Assessment System Mathematics Tests* (Center for Educational Assessment Report No. 793). Amherst, MA: University of Massachusetts, Center for Educational Assessment.

Deng, N., **Colvin, K**., Li, X., Lam, W., Yoo, H., & Hambleton, R. K. (2011). *Equating results for the six 2011 Massachusetts Comprehensive Assessment System Science Tests* (Center for Educational Assessment Report No. 794). Amherst, MA: University of Massachusetts, Center for Educational Assessment.

Colvin, K., Crotts, K., Foster, C., Li, X., Yoo, H., & Hambleton, R. (2010). *IRT item calibrations and model fit analyses of the GRE Biology Tests* (Center for Educational Assessment Report No. 765). Amherst, MA: University of Massachusetts, Center for Educational Assessment.

Colvin, K. F., Sireci, S. G., & Keller, L. A. (2010). *Investigation of item parameter drift in a computerized multistage adaptive test* (Center for Educational Assessment Report No. 783). Amherst, MA: University of Massachusetts, Center for Educational Assessment.

CONFERENCE PRESENTATIONS

*Robertson, T. W. & **Colvin, K. F.** (2016, October). *Relationship of scores on PARCC math content emphases areas with student performance*. Poster presented at the annual meeting of the Northeastern Educational Research Association, Trumbull, CT.

*Sahin, F. & **Colvin, K. F.** (2016, October). *Relationships between computer familiarity, response time, and computer-based test scores*. Paper presented at the annual meeting of the Northeastern Educational Research Association, Trumbull, CT.

Friedlander, M., *Muetzefeld, H., *Re, S., & **Colvin, K. F.** (2016, August). *Introducing the Expectations for Couple Therapy Scale: Initial development/validation*. Poster presented at the annual meeting of the American Psychological Association, Denver, CO.

Ellis, M. V., & **Colvin, K. F.** (2016, June). *Supervisee Non-Disclosure in Clinical Supervision: Developing the construct and testing the psychometric properties of the SNDS*. Poster presented at the Twelfth International Interdisciplinary Conference on Clinical Supervision, Garden City, NY.

Colvin, K. F. (2016, April). *Distinguishing struggling learners from unmotivated students in an intelligent tutoring system*. Paper presented at the annual meeting of the National Council on Measurement in Education, Washington, D.C.

*Sahin, F. & **Colvin, K. F.** (2015, October). *Evaluation of R package ltm for IRT dichotomous models*. Paper presented at the annual meeting of the Northeastern Educational Research Association, Trumbull, CT.

Roysircar-Sodowsky, G., **Colvin, K.**, Thompson, A., Hovey, K., & Johnson, N. (2015, August). *A Generalizability Study of House-Tree-Person Test with Haitian children*. Paper presented at the annual meeting of the American Psychological Association, Toronto.

Balint, T., Teodorescu, R., **Colvin, K.**, Choi, Y. (2015, July). *Discovering mechanics problems with dependent responses in a MOOC*. Paper presented at the American Association of Physics Teachers' Summer Meeting, College Park, MD.

Balint, T., Teodorescu, R., **Colvin, K.**, Choi, Y. (2015, July). *Characteristics of pairs of questions that students answer similarly*. Paper presented at the Physics Education Research Conference, College Park, MD.

Colvin, K. F. & Roysircar-Sodowsky, G. (2015, April). *Evaluation of measures of resilience and vulnerability in post-earthquake Haiti: Using generalizability theory on the road to a validation study.* Paper presented at the annual meeting of the American Education Research Association, Chicago, IL.

Colvin, K. F. & Keller, L. A. (2014, October). *Effect of automatic item generation on ability estimates in a multistage test*. Paper presented at the International Association for Computerized Adaptive Testing Summit, Princeton, NJ.

Colvin, K. F. & Roysircar-Sodowsky, G. (2014, October). *A comparison of raters scoring the Haiti House-Tree-Person Test*. Paper presented at the annual meeting of the Northeastern Educational Research Association, Trumbull, CT.

Roysircar-Sodowsky, G., O'Leary, K. & **Colvin, K. F.** (2014, August). *The Haiti House-Tree-Person Test (H-HTP): Measuring Haitian children's resilience and trauma post 2010 earthquake*. Paper presented at the annual meeting of the American Psychological Association, Washington, DC.

Colvin, K. F., Bergner, Y. & Pritchard, D.E. (2014, April). *Multiple attempt item functioning in formative and summative assessments in a massive open online course (MOOC).* Paper presented at the annual meeting of the National Council on Measurement in Education, Philadelphia, PA.

Sireci, S. G., Randall, J., & **Colvin, K. F.** (2013, October). *Psychometric challenges in developing a measure of scientific knowledge of teaching.* Paper presented at the annual meeting of the Northeastern Educational Research Association, Rocky Hill, CT.

Keller, L. A., Keller, R., Cook, R. & **Colvin, K. F.** (2013, April). *When to say when: Determining when you need to re-estimate parameters for pre-equating*. Paper presented at the annual meeting of the National Council on Measurement in Education, San Francisco.

Colvin, K. F., Keller, L. A., & Soto, A. C. (2012, May). *The effect of demographics in projection models*. Paper presented at the annual meeting of the New England Educational Research Organization, Portsmouth, NH.

Colvin, K. F., Keller, L. A., Zanetti, M., & Dinh, A. (2012, April). *Comparing small sample DIF procedures to evaluate a curricular change*. Paper presented at the annual meeting of the National Council on Measurement in Education, Vancouver, BC.

Lee, M. K. & **Colvin, K. F.** (2012, October). *The effect of item difficulty on two consistency measures in generalizability theory*. Paper presented at the annual meeting of the Northeastern Educational Research Association, Rocky Hill, CT.

Colvin, K. F. & Keller, L. A. (2011, October). *Equity in student growth projections: An investigation of factors that influence growth expectations*. Paper presented at the annual meeting of the Northeastern Educational Research Association, Rocky Hill, CT.

Colvin, K. F., Keller, L. A., & Sireci, S. G. (2011, April). *Detecting item parameter drift and associated factors in a large-scale adult education assessment*. Paper presented at the annual meeting of the New England Educational Research Organization, New Bedford, MA.

TEACHING

Graduate Courses Taught, University at Albany

EPSY 530 – Statistical Methods I (F16)

EPSY 606 – Internship (F16)

EPSY 640 – Educational & Psychological Measurement (F14, F15, F16)

EPSY 687 – Item Response Theory (F15)

EPSY 751 – Multivariate Methods for Applied Researchers (S15, S16, S17)

Undergraduate Course Taught, University at Albany

EPSY 441 – Social Issues in Testing (S16)

Doctoral Dissertation Committees

Gibson, A. (in progress). *Supervisee nondisclosure: Is it predicted by supervisory working alliance, collaborative supervision, and relational behavior?* Counseling Psychology. **Member**.

Lui, A. (in progress). *Students' Reactions to Teacher Feedbacks*. Educational Psychology & Methodology. **Member**.

Marathe, D. (in progress). *Helicopter parenting*. Educational Psychology & Methodology. **Member**.

Sahin, F. (in progress) *Relationship of test factors, students' computer ability, and PISA performance*. Educational Psychology & Methodology. **Chair**.

Basila, C. (2016). *Academic performance in college online courses: The role of self-regulated learning, motivation and academic self-efficacy*. Educational Psychology & Methodology. **Member**.

Cotler, J. (2016). *The impact of online teaching and learning about emotional intelligence, Myers Briggs personality dimensions and mindfulness on personal and social awareness*. Informatics. **Member**.

Hogan, K. (2016). *Self-regulated learning by adults in an online professional development context*. Educational Psychology & Methodology. **Member**.

O'Connor, J. (2015). *Physical activity and sports participation as predictors of suicidal behavior in high school students*. School Psychology. **Member**.

SERVICE

Department of Educational & Counseling Psychology

    Chair, Methodology Comprehensive Exam, 2015 – present

    Member, Search Committee for Statistics Assistant/Associate Professor, 2014 – 2015

School of Education

    Member, Academic Council, 2015 – 2016

    Chair, Academic Council, 2016 – 2017

Professional Service

Conference Co-chair, Northeast Educational Research Association (NERA), 2015

Ad hoc Reviewer

    International Review of Research in Open and Distance Learning

    Journal of Educational Measurement

PROFESSIONAL AFFILIATIONS

American Educational Research Association (AERA), 2011 – present

International Association of Computerized Adaptive Testing (IACAT), 2012 – present

National Council on Measurement in Education (NCME), 2011 – present

Northeast Educational Research Association (NERA), 2010 – present